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| | | |
|--------------|-----------|--|
| NEWS | 1 | Web Page URLs for STN Seminar Schedule - N. America |
| NEWS | 2 | "Ask CAS" for self-help around the clock |
| NEWS | 3 DEC 05 | CASREACT(R) - Over 10 million reactions available |
| NEWS | 4 DEC 14 | 2006 MeSH terms loaded in MEDLINE/LMEDLINE |
| NEWS | 5 DEC 14 | 2006 MeSH terms loaded for MEDLINE file segment of TOXCENTER |
| NEWS | 6 DEC 14 | CA/CAplus to be enhanced with updated IPC codes |
| NEWS | 7 DEC 21 | IPC search and display fields enhanced in CA/CAplus with the IPC reform |
| NEWS | 8 DEC 23 | New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/USPAT2 |
| NEWS | 9 JAN 13 | IPC 8 searching in IFIPAT, IFIUDB, and IFICDB |
| NEWS | 10 JAN 13 | New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to INPADOC |
| NEWS | 11 JAN 17 | Pre-1988 INPI data added to MARPAT , |
| NEWS | 12 JAN 17 | IPC 8 in the WPI family of databases including WPIFV |
| NEWS | 13 JAN 30 | Saved answer limit increased |
| NEWS | 14 JAN 31 | Monthly current-awareness alert (SDI) frequency added to TULSA |
| NEWS | 15 FEB 21 | STN AnaVist, Version 1.1, lets you share your STN AnaVist visualization results |
| NEWS | 16 FEB 22 | Status of current WO (PCT) information on STN |
| NEWS | 17 FEB 22 | The IPC thesaurus added to additional patent databases on STN |
| NEWS | 18 FEB 22 | Updates in EPFULL; IPC 8 enhancements added |
| NEWS | 19 FEB 27 | New STN AnaVist pricing effective March 1, 2006 |
| NEWS | 20 FEB 28 | MEDLINE/LMEDLINE reload improves functionality |
| NEWS | 21 FEB 28 | TOXCENTER reloaded with enhancements |
| NEWS | 22 FEB 28 | REGISTRY/ZREGISTRY enhanced with more experimental spectral property data |
| NEWS | 23 MAR 01 | INSPEC reloaded and enhanced |
| NEWS | 24 MAR 03 | Updates in PATDPA; addition of IPC 8 data without attributes |
| NEWS | 25 MAR 08 | X.25 communication option no longer available after June 2006 |
| NEWS EXPRESS | | FEBRUARY 15 CURRENT VERSION FOR WINDOWS IS V8.01a,
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.
V8.0 AND V8.01 USERS CAN OBTAIN THE UPGRADE TO V8.01a AT
http://download.cas.org/express/v8.0-Discover/ |
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| NEWS PHONE | | Direct Dial and Telecommunication Network Access to STN |
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FILE 'HOME' ENTERED AT 19:20:21 ON 12 MAR 2006

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| SINCE FILE
ENTRY | TOTAL
SESSION |
| 0.21 | 0.21 |

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STRUCTURE FILE UPDATES: 10 MAR 2006 HIGHEST RN 876462-31-6
DICTIONARY FILE UPDATES: 10 MAR 2006 HIGHEST RN 876462-31-6

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TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

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*****
* The CA roles and document type information have been removed from
* the IDE default display format and the ED field has been added,
* effective March 20, 2005. A new display format, IDERL, is now
* available and contains the CA role and document type information.
*****
```

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/reaprops.html>

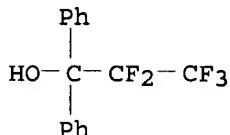
```
=> e 2,2,3,3,3-pentafluoro-1,1-diphenylpropan-1-ol/cn
E1      1      2,2,3,3,3-PENTADEUTEROPROPANOL/CN
E2      1      2,2,3,3,3-PENTADEUTEROPROPIONITRILE/CN
E3      1      --> 2,2,3,3,3-PENTAFLUORO-1,1-DIPHENYLPROPAN-1-OL/CN
E4      1      2,2,3,3,3-PENTAFLUORO-1-(4-METHOXYPHENYL)-1-PROPANONE/CN
E5      1      2,2,3,3,3-PENTAFLUORO-1-(TRIFLUOROMETHYL)PROPYLIDENE/CN
E6      1      2,2,3,3,3-PENTAFLUORO-1-PHENYL-1-PROPANOL/CN
E7      1      2,2,3,3,3-PENTAFLUORO-1-PROPANAMINE/CN
E8      1      2,2,3,3,3-PENTAFLUORO-1-PROPANOL/CN
E9      1      2,2,3,3,3-PENTAFLUORO-1-PROPOXIDE/CN
E10     1      2,2,3,3,3-PENTAFLUORO-N-(4-METHOXYPHENYL)PROPANIMIDOYL CHLORIDE/CN
E11     1      2,2,3,3,3-PENTAFLUOROPROPANAL/CN
```

E12 1 2,2,3,3,3-PENTAFLUOROPROPANOIC ACID/CN

=> s e3
L1 1 "2,2,3,3,3-PENTAFLUORO-1,1-DIPHENYLPROPAN-1-OL"/CN

=> d 11

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 337-33-7 REGISTRY
ED Entered STN: 16 Nov 1984
CN Benzenemethanol, α -(pentafluoroethyl)- α -phenyl- (9CI) (CA
INDEX NAME)
OTHER NAMES:
CN 2,2,3,3,3-Pentafluoro-1,1-diphenylpropan-1-ol
CN NSC 42691
FS 3D CONCORD
MF C15 H11 F5 O
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CSCHEM,
USPATFULL
(*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

7 REFERENCES IN FILE CA (1907 TO DATE)
7 REFERENCES IN FILE CAPLUS (1907 TO DATE)
3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> e potassium pentafluoroethyltrifluoroborate/cn
E1 1 POTASSIUM PENTAFLUOROETHANESULFONATE/CN
E2 1 POTASSIUM PENTAFLUOROETHYLSILICATE/CN
E3 0 --> POTASSIUM PENTAFLUOROETHYLTRIFLUOROBORATE/CN
E4 1 POTASSIUM PENTAFLUOROHAFNATE(1-)/CN
E5 1 POTASSIUM PENTAFLUOROHAFNATE(IV)/CN
E6 1 POTASSIUM PENTAFLUOROHAFNATE(IV)((IV))/CN
E7 1 POTASSIUM PENTAFLUOROMANGANATE(III)/CN
E8 1 POTASSIUM PENTAFLUOROMANGANATE(IV)/CN
E9 1 POTASSIUM PENTAFLUOROMETHYLSILICATE/CN
E10 1 POTASSIUM PENTAFLUOROMETHYLSILICATE(K2(SIF5(CH3)))/CN
E11 1 POTASSIUM PENTAFLUOROOXONIOBATE(2-)/CN
E12 1 POTASSIUM PENTAFLUOROOXORHENATE(1-)/CN

=> e potassium pentafluoroethyl trifluoroborate/cn
E1 1 POTASSIUM PENTAFLUORODISTANNATE(II)/CN
E2 1 POTASSIUM PENTAFLUOROETHANESULFONATE/CN
E3 0 --> POTASSIUM PENTAFLUOROETHYL TRIFLUOROBORATE/CN
E4 1 POTASSIUM PENTAFLUOROETHYLSILICATE/CN
E5 1 POTASSIUM PENTAFLUOROHAFNATE(1-)/CN
E6 1 POTASSIUM PENTAFLUOROHAFNATE(IV)/CN
E7 1 POTASSIUM PENTAFLUOROHAFNATE(IV)((IV))/CN
E8 1 POTASSIUM PENTAFLUOROMANGANATE(III)/CN
E9 1 POTASSIUM PENTAFLUOROMANGANATE(IV)/CN
E10 1 POTASSIUM PENTAFLUOROMETHYLSILICATE/CN
E11 1 POTASSIUM PENTAFLUOROMETHYLSILICATE(K2(SIF5(CH3)))/CN
E12 1 POTASSIUM PENTAFLUOROOXONIOBATE(2-)/CN

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|----------------------|------------|---------|--|
| => file caplus | | | |
| COST IN U.S. DOLLARS | SINCE FILE | TOTAL | |
| FULL ESTIMATED COST | ENTRY | SESSION | |
| | 11.94 | 12.15 | |

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FILE COVERS 1907 - 12 Mar 2006 VOL 144 ISS 12
 FILE LAST UPDATED: 10 Mar 2006 (20060310/ED)

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<http://www.cas.org/infopolicy.html>

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=> s 11/prep
    7 L1
  3436306 PREP/RL
L2      4 L1/PREP
        (L1 (L) PREP/RL)
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=> d 12 ibib ab 1-4

L2 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2005:1125512 CAPLUS
 DOCUMENT NUMBER: 143:405908
 TITLE: Preparation of pyrrolidinium, pyridinium, and imidazolium perfluoroalkyltrifluoroborates as ionic liquids.
 INVENTOR(S): Ignatyev, Nikolai; Welz-Biermann, Urs; Bissky, German; Willner, Helge; Kucheryna, Andriy
 PATENT ASSIGNEE(S): Merck Patent GmbH, Germany
 SOURCE: Ger. Offen., 20 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|----------------------|----------|
| DE 102004017026 | A1 | 20051020 | DE 2004-102004017026 | 20040402 |
| WO 2005105815 | A1 | 20051110 | WO 2005-EP3 | 20050103 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM,
SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: DE 2004-102004017026A 20040402

OTHER SOURCE(S): MARPAT 143:405908

AB Title compds. [I; X = NR1, N(R1)2, Q1Q2CHR3CHR4CHR5CHR6, CR2:CR3CR4:CR5CR6, CR7:CR8NR10CR9; R1 = alkyl, CH2R11; R2-R6 = alkyl; R7-R9 = H, alkyl, aryl; R10 = alkyl, CH2R11; R11 = (per)fluoroalkyl; R12 = perfluoroalkyl, perfluorophenyl, etc.; with specific exceptions], were prepared Thus, a mixture of KF and B(OMe)3 in dimethoxyethane was treated dropwise with (C2F5)2P:NSiMe3 (preparation given) followed by heating at 60° for 1 h. Solvent was distilled off and the oily residue in dimethoxyethane was treated with HF under cooling; after stirring for 3 h excess HF was removed and the residue in H2O was treated with 1-methyl-3-butylimidazolium chloride. The lower phase was separated to a mixture containing 60 mol% 1-methyl-3-butylimidazolium pentafluoroethyltrifluoroborate.

L2 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:837099 CAPLUS

DOCUMENT NUMBER: 139:323661

TITLE: Process for the production of (perfluoroalkyl)phosphines by reaction of fluoro(perfluoroalkyl)phosphoranes with hydride donors and their use as perfluoroalkylating reagents

INVENTOR(S): Welz-Biermann, Urs; Ignatyev, Nikolai; Weiden, Michael; Schmidt, Michael; Heider, Udo; Miller, Alexej; Willner, Helge; Sartori, Peter

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------------------|----------|
| WO 2003087113 | A1 | 20031023 | WO 2003-EP2739 | 20030317 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| DE 10216998 | A1 | 20031113 | DE 2002-10216998 | 20020418 |
| AU 2003218773 | A1 | 20031027 | AU 2003-218773 | 20030317 |
| EP 1495037 | A1 | 20050112 | EP 2003-712029 | 20030317 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK | | | | |
| US 2005131256 | A1 | 20050616 | US 2003-511554 | 20030317 |
| JP 2005522512 | T2 | 20050728 | JP 2003-584069 | 20030317 |
| PRIORITY APPLN. INFO.: | | | DE 2002-10216998 A 20020418 | |
| | | | WO 2003-EP2739 W 20030317 | |

OTHER SOURCE(S): CASREACT 139:323661; MARPAT 139:323661

AB (perfluoroalkyl)phosphines were prepared by solventless reaction at reflux of at least 1 fluoro(perfluoroalkyl)phosphorane ($C_nF_{2n+1}mPF_5-m$) ($1 \leq n \leq 8$, preferably $1 \leq n \leq 4$; $m = 1, 2, 3$) with

equimolar or excess amts. of at least 1 hydride ion donor (hydride donors = hydrosilanes, alkyl(hydro)silanes, metal hydrides, borohydrides, hydroborates); tris(perfluoroalkyl)phosphines thus prepared are useful for perfluoroalkylation of chemical substrates, preferably tricoordinated organoboron compds. and/or carbonyl group-containing organic compds., in presence

of a base. In an example, treating 0.54 mol (C₂F₅)₃PF₂ with 1.089 mol NaBH₄ at reflux for 3 h with vigorous stirring gave 93% (C₂F₅)₃P, which subsequently was treated with KOBu-t and benzophenone in THF to give 62% CF₃CF₂C(OH)Ph₂.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:837015 CAPLUS
DOCUMENT NUMBER: 139:323332
TITLE: Method for perfluoroalkylation of carbonyl-containing organic compounds and/or tricoordinated organoboron compounds with tris(perfluoroalkyl)phosphine oxides in the presence of a base
INVENTOR(S): Ignatyev, Nikolai; Welz-Biermann, Urs; Schmidt, Michael; Weiden, Michael; Heider, Udo; Willner, Helge; Sartori, Peter; Miller, Alexej
PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
SOURCE: PCT Int. Appl., 19 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------------------|----------|
| WO 2003087020 | A1 | 20031023 | WO 2003-EP2741 | 20030317 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| DE 10216996 | A1 | 20031030 | DE 2002-10216996 | 20020416 |
| AU 2003219062 | A1 | 20031027 | AU 2003-219062 | 20030317 |
| EP 1494982 | A1 | 20050112 | EP 2003-714833 | 20030317 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK | | | | |
| US 2005119513 | A1 | 20050602 | US 2003-511156 | 20030317 |
| JP 2005522496 | T2 | 20050728 | JP 2003-583979 | 20030317 |
| PRIORITY APPLN. INFO.: | | | DE 2002-10216996 A 20020416 | |
| | | | WO 2003-EP2741 W 20030317 | |

AB The invention relates to a method for perfluoroalkylation of carbonyl-containing organic compds. and/or tricoordinated organoboron compds. with tris(perfluoroalkyl)phosphine oxides in the presence of a base. Thus, a mixture of KF and (MeO)₃B in 1,2-dimethoxyethane was treated with tris(pentafluoroethyl)phosphine oxide (preparation given) at -40° followed by stirring for 1 h at -30° to give 53.6% potassium pentafluoroethyltrifluoroborate [(C₂F₅)BF₃K].

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 1982:438595 CAPLUS
 DOCUMENT NUMBER: 97:38595
 TITLE: Addition-elimination reactions between phenyllithium
 and some perfluorovinyl ether compounds
 AUTHOR(S): Chen, Loomis S.; Tamborski, Christ
 CORPORATE SOURCE: Mater. Lab., Air Force Wright Aeronaut. Lab., Wright
 Patterson AFB, OH, 45433, USA
 SOURCE: Journal of Fluorine Chemistry (1982), 20(3), 341-8
 CODEN: JFLCAR; ISSN: 0022-1139
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 97:38595
 AB Reactions between PhLi and C₃F₇OCF:CF₂ gave C₃F₇OCF:CFPh and
 C₃F₇OCPh:CFPh. Stoichiometry and reaction temperature dictate the degree of
 substitution; with each replacement of F by Ph the subsequent
 substitutions require more forcing conditions. The F was substituted
 easier than the C₃F₇O group during the addition-elimination reactions.

```

=> s potassium pentafluoroethyltrifluoroborate
      583052 POTASSIUM
      16 POTASSIUMS
      583054 POTASSIUM
          (POTASSIUM OR POTASSIUMS)
      4 PENTAFLUOROETHYLTRIFLUOROBORATE
L3   1 POTASSIUM PENTAFLUOROETHYLTRIFLUOROBORATE
          (POTASSIUM (W) PENTAFLUOROETHYLTRIFLUOROBORATE)
  
```

=> d l3 ibib ab

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:1059309 CAPLUS
 DOCUMENT NUMBER: 142:37908
 TITLE: Synthesis of guanidinium-cation containing salts for
 use as ionic liquid reaction media
 INVENTOR(S): Welz-Biermann, Urs; Ignatyev, Nikolai; Willner, Helge;
 Bissky, German
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|---|----------|------------------|------------|
| WO 2004106288 | A2 | 20041209 | WO 2004-EP3459 | 20040401 |
| WO 2004106288 | A3 | 20050317 | | |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | |
| RW: | BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,
TD, TG | | | |
| DE 10325051 | A1 | 20041223 | DE 2003-10325051 | 20030602 |
| PRIORITY APPLN. INFO.: | | | DE 2003-10325051 | A 20030602 |
| OTHER SOURCE(S): | MARPAT 142:37908 | | | |
| AB | The invention relates to salts containing guanidinium cations, to a method for | | | |

their production and to their use as ionic liqs. Thus, 1,3-dimethyl-2-chloroimidazolidinium chloride was reacted with trimethylsilyldiethylamine to give 1,3-dimethyl-2-diethylaminioimidazolidinium chloride, which was then reacted with trifluorotris(pentafluoroethyl)phosphate to give the desired compound (I), m.p. 36-37° C. I had viscosities of 78, 34, and 18 cP at 40, 60, and 80 °C, resp., compared to 346, 269, and 124 cP for reference compound N,N-dimethyl-N',N',N'',N''-tetrahexylguanidinium bis(trifluoromethanesulfonyl)imide at 25, 40, or 60 °C, resp.

=> d 13 iall

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:1059309 CAPLUS
 DOCUMENT NUMBER: 142:37908
 ENTRY DATE: Entered STN: 10 Dec 2004
 TITLE: Synthesis of guanidinium-cation containing salts for use as ionic liquid reaction media
 INVENTOR(S): Welz-Biermann, Urs; Ignatyev, Nikolai; Willner, Helge; Bissky, German
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 INT. PATENT CLASSIF.:
 MAIN: C07C279-04
 SECONDARY: C07D233-48; C07F009-28; C07C309-06; C09F005-02
 CLASSIFICATION: 23-4 (Aliphatic Compounds)
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--|----------|------------------|------------|
| WO 2004106288 | A2 | 20041209 | WO 2004-EP3459 | 20040401 |
| WO 2004106288 | A3 | 20050317 | | |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | |
| RW: | BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |
| DE 10325051 | A1 | 20041223 | DE 2003-10325051 | 20030602 |
| PRIORITY APPLN. INFO.: | | | DE 2003-10325051 | A 20030602 |

PATENT CLASSIFICATION CODES:

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---------------|-------|---|
| WO 2004106288 | ICM | C07C279-04 |
| | ICS | C07D233-48; C07F009-28; C07C309-06; C09F005-02 |
| | IPCI | C07C0279-04 [ICM,7]; C07D0233-48 [ICS,7]; C07F0009-28 [ICS,7]; C07C0309-06 [ICS,7]; C09F0005-02 [ICS,7] |
| | IPCR | C07C0277-00 [I,C]; C07C0277-08 [I,A]; C07C0279-00 [I,C]; C07C0279-02 [I,A]; C07C0279-04 [I,A]; C07F0005-00 [I,C]; C07F0005-04 [I,A]; C07F0009-00 [I,C]; C07F0009-28 [I,A] |
| | ECLA | C07C277/08; C07C279/02; C07C279/04; C07F005/04; C07F009/28 |
| DE 10325051 | IPCI | C07C0279-02 [ICM,7]; C07F0009-50 [ICS,7]; H01M0006-16 [ICS,7]; B01J0031-02 [ICS,7] |

IPCR C07C0277-00 [I,C]; C07C0277-08 [I,A]; C07C0279-00
[I,C]; C07C0279-02 [I,A]; C07C0279-04 [I,A];
C07F0005-00 [I,C]; C07F0005-04 [I,A]; C07F0009-00
[I,C]; C07F0009-28 [I,A]
ECLA C07C277/08; C07C279/02; C07C279/04; C07F005/04;
C07F009/28

OTHER SOURCE(S) : MARPAT 142:37908

ABSTRACT:

The invention relates to salts containing guanidinium cations, to a method for their production and to their use as ionic liqs. Thus, 1,3-dimethyl-2-chloroimidazolidinium chloride was reacted with trimethylsilyldiethylamine to give 1,3-dimethyl-2-diethylaminioimidazolidinium chloride, which was then reacted with trifluorotris(pentafluoroethyl)phosphate to give the desired compound (I), m.p. 36-37° C. It had viscosities of 78, 34, and 18 cP at 40, 60, and 80 °C, resp., compared to 346, 269, and 124 cP for reference compound N,N-dimethyl-N',N',N'',N''-tetrahexylguanidinium bis(trifluoromethanesulfonyl)imide at 25, 40, or 60 °C, resp.

SUPPL. TERM: guanidinium salt prepn ionic liq viscosity
INDEX TERM: Ionic liquids
Viscosity
(preparation of ionic liqs. containing guanidinium cations)
INDEX TERM: Alkali metal salts
Alkaline earth salts
ROLE: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of ionic liqs. containing guanidinium cations)
INDEX TERM: Amines, preparation
ROLE: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(salts; preparation of ionic liqs. containing guanidinium cations)
INDEX TERM: 805247-52-3P
ROLE: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of ionic liqs. containing guanidinium cations)
INDEX TERM: 153756-25-3P 805247-48-7P 805247-49-8P 805247-50-1P
805247-53-4P 805247-54-5P 805247-55-6P 805247-57-8P
805247-58-9P 805247-59-0P 805247-60-3P 805247-61-4P
805247-63-6P 805247-64-7P
ROLE: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of ionic liqs. containing guanidinium cations)
INDEX TERM: 80-70-6, n,n,n',n'-Tetramethylguanidine 109-63-7,
Borontrifluoride etherate 333-27-7, Methyl triflate
425-75-2, Ethyl triflate 593-85-1, Guanidinium carbonate
996-50-9, Trimethylsilyldiethylamine 1493-13-6,
Trifluoromethanesulfonic acid 29166-71-0 30388-20-6,
Hexamethylguanidinium chloride 37091-73-9 50314-58-4
261356-49-4 476639-90-4, Potassium pentafluoroethyltrifluoroborate 482635-70-1
ROLE: RCT (Reactant); RACT (Reactant or reagent)
(preparation of ionic liqs. containing guanidinium cations)
INDEX TERM: 805247-45-4P 805247-46-5P 805247-47-6P
ROLE: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of ionic liqs. containing guanidinium cations)

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COST IN U.S. DOLLARS

SINCE FILE TOTAL

| | ENTRY | SESSION |
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| FULL ESTIMATED COST | 25.38 | 37.53 |
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| CA SUBSCRIBER PRICE | ENTRY | SESSION |
| | -4.50 | -4.50 |

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 DICTIONARY FILE UPDATES: 10 MAR 2006 HIGHEST RN 876462-31-6

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TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

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```
*****
*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added,   *
* effective March 20, 2005. A new display format, IDERL, is now      *
* available and contains the CA role and document type information. *
*****
*****
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Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

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L4      0 805247-52
          (805247 (W) 52)
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DICTIONARY FILE UPDATES: 10 MAR 2006 HIGHEST RN 876462-31-6

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*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> S 805247-52-3/RN

L5 1 805247-52-3/RN

=> SET NOTICE 1 DISPLAY

NOTICE SET TO 1 U.S. DOLLAR FOR DISPLAY COMMAND
SET COMMAND COMPLETED

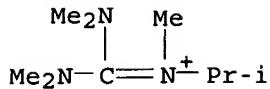
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YOU HAVE REQUESTED DATA FROM 1 ANSWERS - CONTINUE? Y/(N):y
THE ESTIMATED COST FOR THIS REQUEST IS 6.36 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:1
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 805247-52-3 REGISTRY
CN 2-Propanaminium, N-[bis(dimethylamino)methylene]-N-methyl-, salt with trifluoromethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)
MF C9 H22 N3 . C F3 O3 S
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

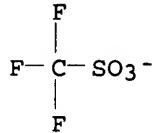
CM 1

CRN 805247-51-2
CMF C9 H22 N3



CM 2

CRN 37181-39-8
CMF C F3 O3 S



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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NOTICE SET TO OFF FOR DISPLAY COMMAND
SET COMMAND COMPLETED

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| | | | |
|--|------------|---------|--|
| => file reg | | | |
| COST IN U.S. DOLLARS | SINCE FILE | TOTAL | |
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| FULL ESTIMATED COST | 2.78 | 50.71 | |
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| CA SUBSCRIBER PRICE | 0.00 | -4.50 | |

FILE 'REGISTRY' ENTERED AT 19:33:52 ON 12 MAR 2006
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DICTIONARY FILE UPDATES: 10 MAR 2006 HIGHEST RN 876462-31-6

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TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

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conducting SmartSELECT searches.

*
* The CA roles and document type information have been removed from *

* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS
for details.

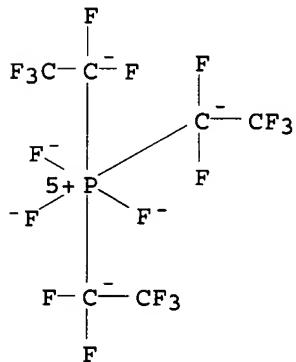
REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> s 482635-70-1
L6 1 482635-70-1
(482635-70-1/RN)

=> d 16

L6 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 482635-70-1 REGISTRY
ED Entered STN: 29 Jan 2003
CN Phosphate(1-), trifluorotris(pentafluoroethyl)-, hydrogen (9CI) (CA INDEX
NAME)
MF C6 F18 P . H
CI CCS, COM
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
CRN (429679-87-8)



● H⁺

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3 REFERENCES IN FILE CA (1907 TO DATE)
3 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> FIL MARPAT

COST IN U.S. DOLLARS

SINCE FILE
ENTRY TOTAL
SESSION

| | | |
|--|------------------|---------------|
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| CA SUBSCRIBER PRICE | 0.00 | -4.50 |

FILE 'MARPAT' ENTERED AT 19:37:46 ON 12 MAR 2006
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FILE CONTENT: 1969-PRESENT VOL 144 ISS 10 (20060303/ED)

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MOST RECENT CITATIONS FOR PATENTS FROM MAJOR ISSUING AGENCIES
 (COVERAGE TO THESE DATES IS NOT COMPLETE):

| | | |
|----|--------------|-------------|
| US | 2006014764 | 19 JAN 2006 |
| DE | 202005014897 | 22 DEC 2005 |
| EP | 1609846 | 28 DEC 2005 |
| JP | 2005353222 | 22 DEC 2005 |
| WO | 2006003494 | 12 JAN 2006 |
| GB | 2415429 | 28 DEC 2005 |
| FR | 2871802 | 23 DEC 2005 |
| RU | 2266908 | 27 DEC 2005 |
| CA | 2495134 | 23 DEC 2005 |

Expanded G-group definition display now available.

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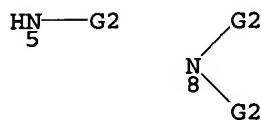
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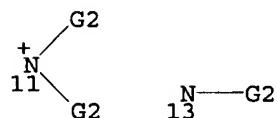
ANSWER 1 MARPAT COPYRIGHT 2006 ACS on STN
 AN 142:37908 MARPAT
 TI Synthesis of guanidinium-cation containing salts for use as ionic liquid
 reaction media
 IN Welz-Biermann, Urs; Ignatyev, Nikolai; Willner, Helge; Bissky, German
 PA Merck Patent G.m.b.H., Germany
 SO PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DT Patent
 LA German
 IC ICM C07C279-04
 ICS C07D233-48; C07F009-28; C07C309-06; C09F005-02
 CC 23-4 (Aliphatic Compounds)
 FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------|--|----------|-----------------|----------|
| ----- | ----- | ----- | ----- | ----- |
| PI WO 2004106288 | A2 | 20041209 | WO 2004-EP3459 | 20040401 |
| WO 2004106288 | A3 | 20050317 | | |
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CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, | | | |

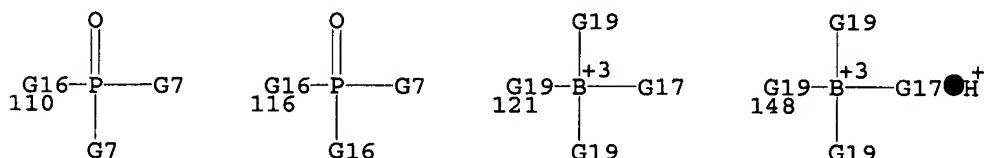
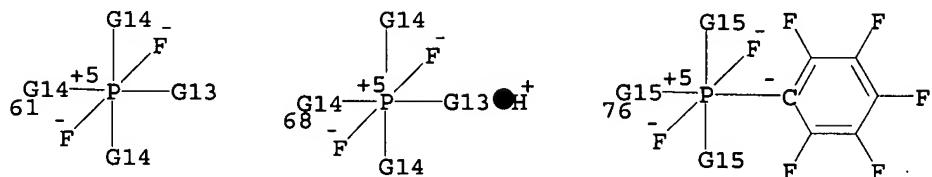
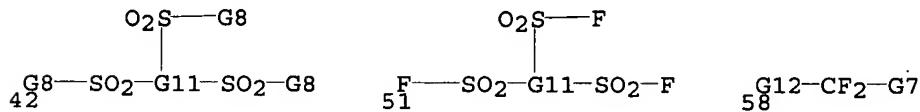
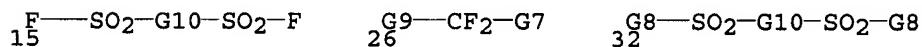
G1 = NH₂ / 5 / 8 / heterocycle <containing 1 or more N,
attached through 1 or more N>

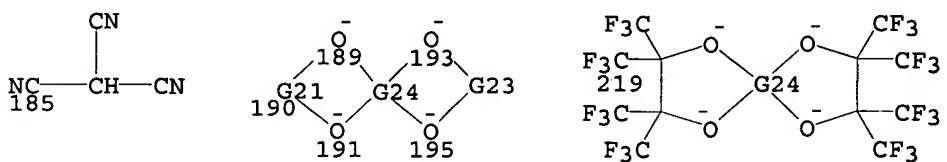
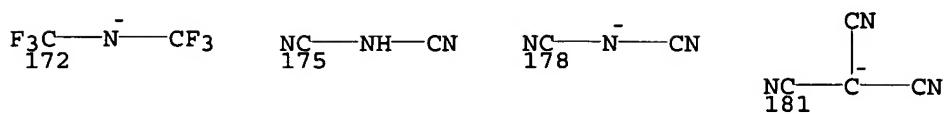
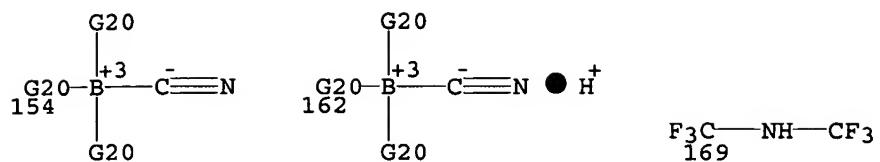


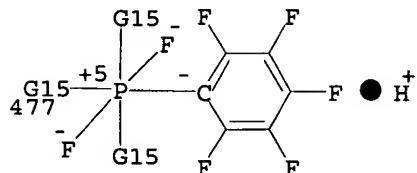
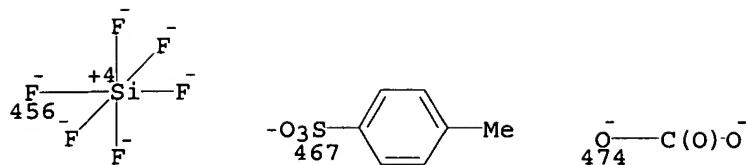
G2 = alkyl <containing 1-20 C>
(opt. subst. by 1 or more G4) /
carbocycle <containing 3-7 C> (opt. subst. by 1 or more G4)
/ Ph (opt. subst. by G5) / R / (Specifically claimed: Me /
Et / Pr-n / Pr-i / Bu-t / Bu-s / Ph / cyclohexyl)
G3 = NH / 13 / 11 / heterocycle <containing 1 or more N,
attached through 1 or more N, (+1) charge>



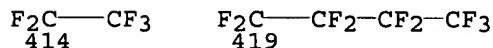
G4 = halo / F / Cl / CN / NO₂
G5 = alkyl <containing 1-6 C>
(opt. subst. by 1 or more G4) / halo / F / Cl / CN / NO₂
G6 = 15 / 26 / 32 / 42 / 51 / 58 / 61 / 68 / 76 / 477 /
110 / 116 / 121 / 148 / 154 / 162 / 169 / 172 / 175 / 178 /
181 / 185 / 190 / 219 / 241 / 343 / 355 / 309 / 335 /
fluoride / chloride / bromide / iodide / 436 / 439 / 441 /
443 / 446 / 450 / 452 / 456 / tetrafluoroborate / sulfate /
nitrate / 467 / 467 / 474



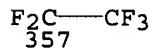




G7 = perfluoroalkyl <containing 1-20 C> /
 perfluoroalkenyl <containing 2-20 C> /
 alkynyl <containing 2-20 C, no H> (substd. by 1 or more F) /
 carbocycle <containing 3-7 C, no H>
 (substd. by 1 or more F) / Ph (opt. substd. by
 perfluoroalkyl) / R / (Specifically claimed: CF₃ / 414 / 419)



G8 = perfluoroalkyl <containing 2-20 C> /
 perfluoroalkenyl <containing 2-20 C> /
 alkynyl <containing 2-20 C, no H> (substd. by 1 or more F) /
 carbocycle <containing 3-7 C, no H>
 (substd. by 1 or more F) / Ph (opt. substd. by
 perfluoroalkyl) / R / (Specifically claimed: 357)



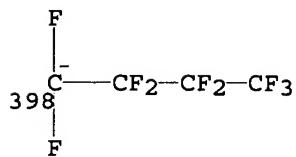
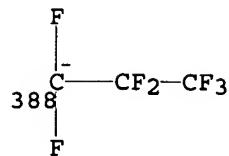
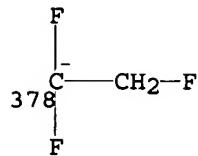
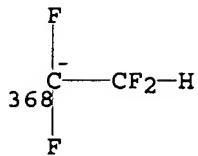
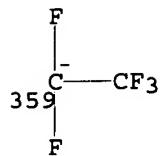
G9 = SO₃H / sulfonate
 G10 = NH / 49



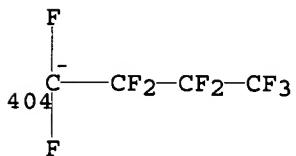
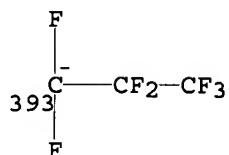
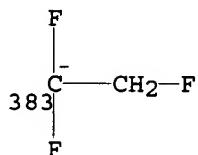
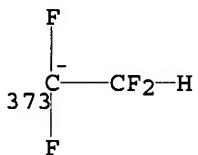
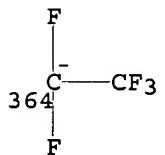
G11 = 50 / CH



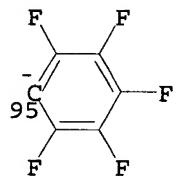
G12 = carboxylate / CO₂H
 G13 = alkyl <containing 1-20 C, (-1) charge>
 (opt. substd. by 1 or more F) / (Specifically claimed: 359 /
 368 / 378 / 388 / 398)



G14 = alkyl <containing 1-20 C, (-1) charge>
(opt. subst. by 1 or more F) / fluoride /
(Specifically claimed: 364 / 373 / 383 / 393 / 404)



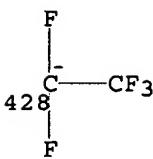
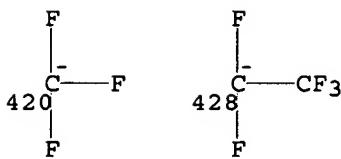
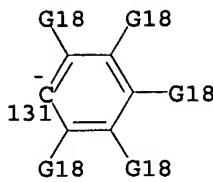
G15 = 95 / fluoride



G16 = 115 / OH

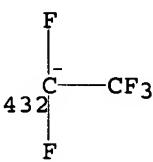
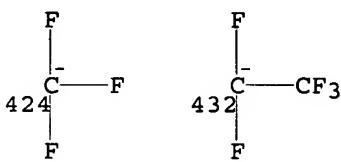
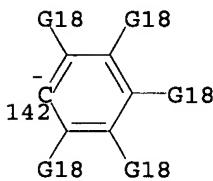


G17 = perfluoroalkyl <containing 1-20 C, (-1) charge> /
perfluoroalkenyl <containing 2-20 C, (-1) charge> /
alkynyl <containing 2-20 C, no H, (-1) charge>
(subst. by 1 or more F) / carbocycle <containing 3-7 C,
no H, (-1) charge> (subst. by 1 or more F) / 131 /
R <(-1) charge> / (Specifically claimed: 420 / 428)

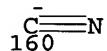


G18 = H / perfluoroalkyl

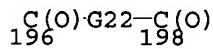
G19 = perfluoroalkyl <containing 1-20 C, (-1) charge> /
perfluoroalkenyl <containing 2-20 C, (-1) charge> /
alkynyl <containing 2-20 C, no H, (-1) charge>
(substd. by 1 or more F) / carbocycle <containing 3-7 C,
no H, (-1) charge> (substd. by 1 or more F) / 142 /
R <(-1) charge> / fluoride / (Specifically claimed: 424 /
432)



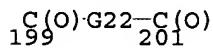
G20 = 160 / fluoride



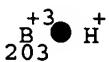
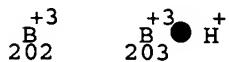
G21 = 196-189 198-191



G22 = (0-3) CH₂ (opt. substd. by F)
G23 = 199-193 201-195



G24 = 202 / 203



G25 = H / F / CF₃

G26 = H / CF₃

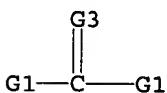
G27 = H / R

Patent location:

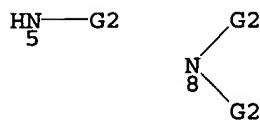
claim 1

Note: additional ring formation also claimed
Note: also incorporates claim 6

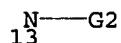
MSTR 2



G1 = NH2 / 5 / 8 / heterocycle <containing 1 or more N,
attached through 1 or more N>



G2 = alkyl <containing 1-20 C>
(opt. subst. by 1 or more G4) /
carbocycle <containing 3-7 C> (opt. subst. by 1 or more G4)
/ Ph (opt. subst. by G5) / R / (Specifically claimed: Me /
Et / Pr-n / Pr-i / Bu-t / Bu-s / Ph / cyclohexyl)
G3 = NH / 13 / heterocycle <containing 1 or more N,
attached through 1 or more N, (+1) charge>



G4 = halo / F / Cl / CN / NO2

G5 = alkyl <containing 1-6 C>

(opt. subst. by 1 or more G4) / halo / F / Cl / CN / NO2

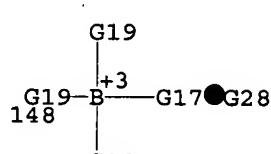
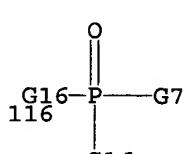
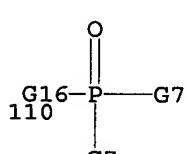
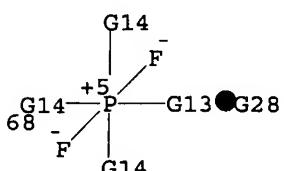
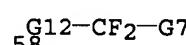
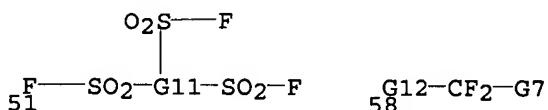
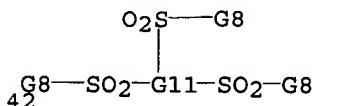
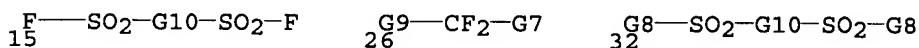
Patent location: claim 6

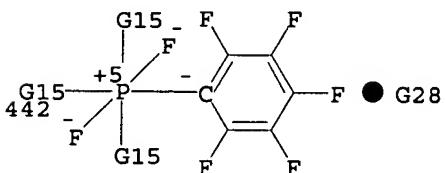
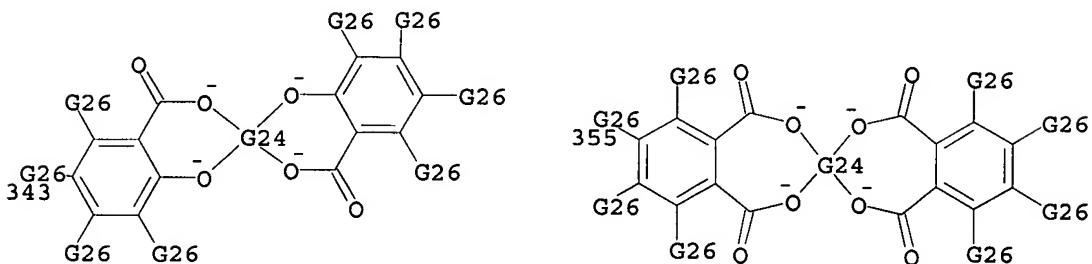
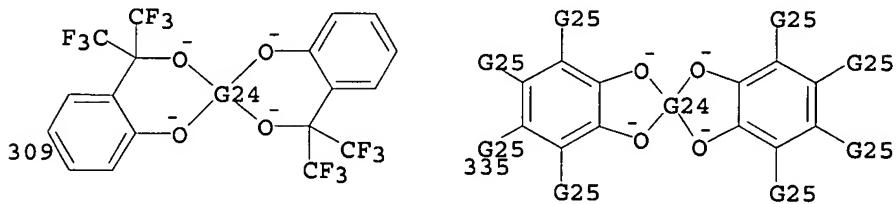
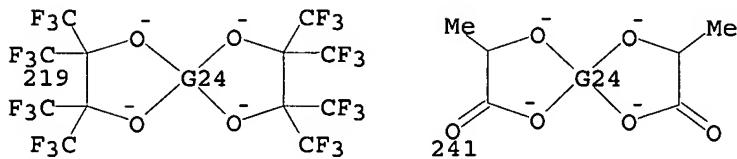
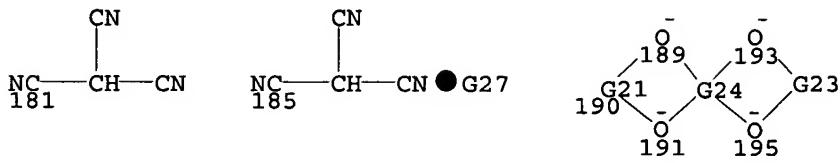
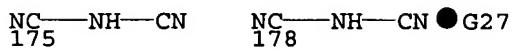
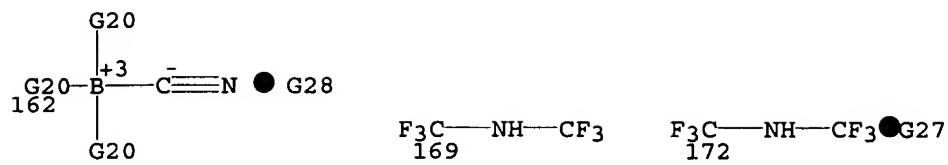
Note: additional ring formation also claimed

MSTR 3

G6

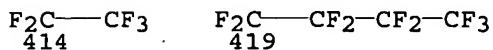
G6 = 15 / 26 / 32 / 42 / 51 / 58 / 68 / 442 / 110 / 116 /
148 / 162 / 169 / 172 / 175 / 178 / 181 / 185 / 190 / 219 /
241 / 343 / 355 / 309 / 335



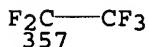


G7 = perfluoroalkyl <containing 1-20 C> /

perfluoroalkenyl <containing 2-20 C> /
alkynyl <containing 2-20 C, no H> (substd. by 1 or more F) /
carbocycle <containing 3-7 C, no H>
(substd. by 1 or more F) / Ph (opt. substd. by
perfluoroalkyl) / R / (Specifically claimed: CF₃ / 414 / 419)



G8 = perfluoroalkyl <containing 2-20 C> /
perfluoroalkenyl <containing 2-20 C> /
alkynyl <containing 2-20 C, no H> (substd. by 1 or more F) /
carbocycle <containing 3-7 C, no H>
(substd. by 1 or more F) / Ph (opt. substd. by
perfluoroalkyl) / R / (Specifically claimed: 357)



G9 = SO₃H / 437



G10 = NH / 49



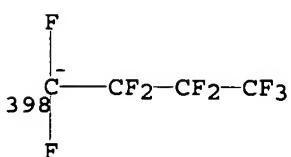
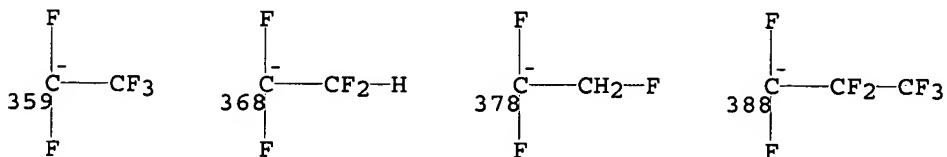
G11 = 50 / CH



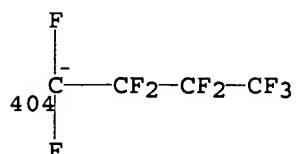
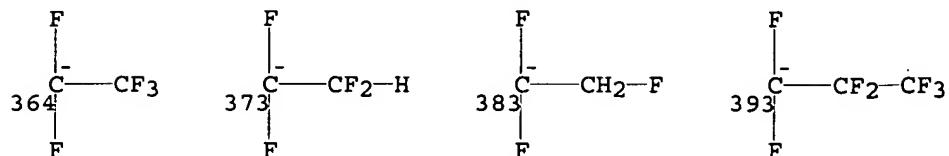
G12 = 440 / CO₂H



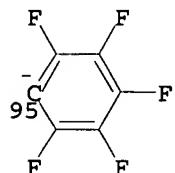
G13 = alkyl <containing 1-20 C, (-1) charge>
(opt. substd. by 1 or more F) / (Specifically claimed: 359 /
368 / 378 / 388 / 398)



G14 = alkyl <containing 1-20 C, (-1) charge>
 (opt. substd. by 1 or more F) / fluoride /
 (Specifically claimed: 364 / 373 / 383 / 393 / 404)



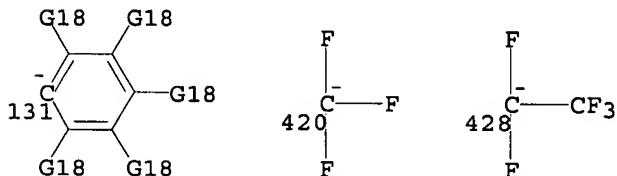
G15 = 95 / fluoride



G16 = 115 / OH

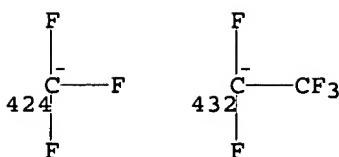
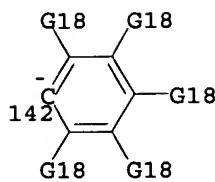
^{OH}
115 ● G27

G17 = perfluoroalkyl <containing 1-20 C, (-1) charge> /
 perfluoroalkenyl <containing 2-20 C, (-1) charge> /
 alkynyl <containing 2-20 C, no H, (-1) charge>
 (substd. by 1 or more F) / carbocycle <containing 3-7 C,
 no H, (-1) charge> (substd. by 1 or more F) / 131 /
 R <(-1) charge> / (Specifically claimed: 420 / 428)

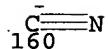


G18 = H / perfluoroalkyl

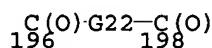
G19 = perfluoroalkyl <containing 1-20 C, (-1) charge> /
 perfluoroalkenyl <containing 2-20 C, (-1) charge> /
 alkynyl <containing 2-20 C, no H, (-1) charge>
 (substd. by 1 or more F) / carbocycle <containing 3-7 C,
 no H, (-1) charge> (substd. by 1 or more F) / 142 /
 R <(-1) charge> / fluoride / (Specifically claimed: 424 / 432)



G20 = 160 / fluoride

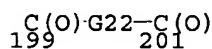


G21 = 196-189 198-191

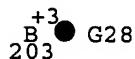


G22 = (0-3) CH₂ (opt. substd. by F)

G23 = 199-193 201-195



G24 = 203



G25 = H / F / CF₃

G26 = H / CF₃

G27 = alkali metal atom / alkaline earth metal atom

G28 = 461 / alkali metal ion / alkaline earth metal ion

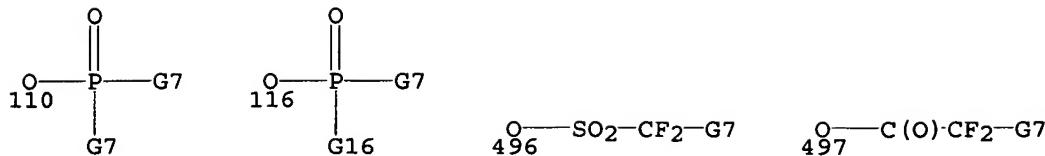


Patent location: claim 6

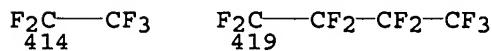
MSTR 4

G2—G6

G2 = alkyl <containing 1-20 C>
 (opt. substd. by 1 or more G4) /
 carbocycle <containing 3-7 C> (opt. substd. by 1 or more G4)
 / Ph (opt. substd. by G5) / R / (Specifically claimed: Me /
 Et / Pr-n / Pr-i / Bu-t / Bu-s / Ph / cyclohexyl)
 G4 = halo / F / Cl / CN / NO₂
 G5 = alkyl <containing 1-6 C>
 (opt. substd. by 1 or more G4) / halo / F / Cl / CN / NO₂
 G6 = 496 / 497 / 110 / 116



G7 = perfluoroalkyl <containing 1-20 C> /
 perfluoroalkenyl <containing 2-20 C> /
 alkynyl <containing 2-20 C, no H> (subst. by 1 or more F) /
 carbocycle <containing 3-7 C, no H>
 (subst. by 1 or more F) / Ph (opt. subst. by
 perfluoroalkyl) / R / (Specifically claimed: CF₃ / 414 / 419)



G16 = 115 / OH



Patent location: claim 7
 Note: substitution is restricted

=> SET NOTICE LOGIN DISPLAY

NOTICE SET TO OFF FOR DISPLAY COMMAND
SET COMMAND COMPLETED

=> FIL REGISTRY

| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|--|------------------|---------------|
| FULL ESTIMATED COST | 6.08 | 61.77 |
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| CA SUBSCRIBER PRICE | -0.71 | -5.21 |

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=> S 476639-90-4/RN

L7 1 476639-90-4/RN

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NOTICE SET TO 1 U.S. DOLLAR FOR DISPLAY COMMAND
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=> D L7 SQIDE 1-

YOU HAVE REQUESTED DATA FROM 1 ANSWERS - CONTINUE? Y/(N):y
THE ESTIMATED COST FOR THIS REQUEST IS 6.36 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N:y

L7 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN 476639-90-4 REGISTRY
CN Borate(1-), trifluoro(pentafluoroethyl)-, potassium, (T-4)- (9CI) (CA
INDEX NAME)

OTHER NAMES:

CN Potassium (pentafluoroethyl)trifluoroborate
CN Potassium trifluoro(pentafluoroethyl)borate
MF C2 B F8 . K
CI CCS
SR CA

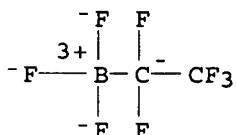
LC STN Files: CA, CAPLUS, CASREACT, USPATFULL

DT.CA CAplus document type: Journal; Patent

RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties); RACT
(Reactant or reagent)

CRN (390750-62-6)



● K+

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

10 REFERENCES IN FILE CA (1907 TO DATE)
10 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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=> S 476639-90-4
L8 1 476639-90-4
(476639-90-4/RN)

=> file caplus

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=> S 18
L9 10 L8

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MISSING OPERATOR L8 PREP
The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> s 18/prep
10 L8
3436306 PREP/RL
L10 7 L8/PREP
(L8 (L) PREP/RL)

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L10 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:166762 CAPLUS
DOCUMENT NUMBER: 142:414350
TITLE: Li[C₂F₅BF₃] as an electrolyte salt for 4 V class lithium-ion cells
AUTHOR(S): Zhou, Zhi-Bin; Takeda, Masayuki; Fujii, Takashi; Ue, Makoto
CORPORATE SOURCE: Battery Materials Laboratory, Mitsubishi Chemical Group Science and Technology Research Center, Incorporated, Ibaraki, 300-0332, Japan
SOURCE: Journal of the Electrochemical Society (2005), 152(2), A351-A356
CODEN: JESOAN; ISSN: 0013-4651
PUBLISHER: Electrochemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Lithium pentafluoroethyltrifluoroborate, Li[C₂F₅BF₃] (LiFAB), was prepared by a facile metathesis reaction between high-purity K[C₂F₅BF₃] and LiBF₄ in di-Me carbonate with almost quant. yield. It was characterized by ¹H-, ¹⁹F-, ¹¹B-, ⁷Li-NMR, and elemental anal. In nonaq. solvents, LiFAB showed higher electrolytic conductivities than LiBF₄ due to the weaker coordinating ability of FAB-. Compared with LiPF₆, it showed a lower electrolytic conductivity in room-temperature region, and a higher conductivity in low-temperature region (T < -10 °C). The performances of LiFAB were evaluated in comparison with LiPF₆ and LiBF₄ by using Li/graphite and Li/nickel-based oxide half-cells and Li-ion cells. LiFAB could afford comparable performances to LiPF₆ and much better performances than LiBF₄.
REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:990110 CAPLUS
DOCUMENT NUMBER: 140:181496
TITLE: Rearrangement reactions of the transient Lewis acids (CF₃)₃B and (CF₃)₃BCF₂: an experimental and theoretical study
AUTHOR(S): Finze, Maik; Bernhardt, Eduard; Zaehres, Manfred; Willner, Helge
CORPORATE SOURCE: Fakultaet 4, Anorganische Chemie, Universitaet Duisburg-Essen, Duisburg, D-47048, Germany
SOURCE: Inorganic Chemistry (2004), 43(2), 490-505
CODEN: INOCAJ; ISSN: 0020-1669
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:181496
AB Short-lived (CF₃)₃B and (CF₃)₃BCF₂ are generated as intermediates by thermal dissociation of (CF₃)₃BCO and F- abstraction from the weak coordinating anion [B(CF₃)₄]⁻, resp. Both Lewis acids cannot be detected because of their instability with respect to rearrangement reactions at the B-C-F moiety. A cascade of 1,2-F shifts to B followed by perfluoroalkyl group migrations and also difluorocarbene transfer reactions occur. In the gas phase, (CF₃)₃B rearranges to a mixture of linear perfluoroalkyldifluoroboranes C_nF_{2n+1}BF₂ (n = 2-7), while the resp. reactions of (CF₃)₃BCF₂ result in a mixture of linear (n = 2-4) and branched

monoperfluoroalkyldifluoroboranes, e.g., (C₂F₅)(CF₃)FCBF₂. For comparison, the reactions of [CF₃BF₃]- and [C₂F₅BF₃]- with AsF₅ were studied, and the products in the case of [CF₃BF₃]- are BF₃ and C₂F₅BF₂ whereas in the case of [C₂F₅BF₃]-, C₂F₅BF₂ is the sole product. In contrast to reports in the literature, CF₃BF₂ is too unstable at room temperature to be detected. The decomposition of (CF₃)₃BCO in anhydrous HF leads to a

mixture of the new conjugate Bronsted-Lewis acids [H₂F][(CF₃)₃BF] and [H₂F][C₂F₅BF₃]. All reactions are modeled by d. functional calcns. The energy barriers of the transition states are low in agreement with the exptl. results that (CF₃)₃B and (CF₃)₃BCF₂ are short-lived intermediates. Since CF₂ complexes are key intermediates in the rearrangement reactions of (CF₃)₃B and (CF₃)₃BCF₂, CF₂ affinities of some perfluoroalkylfluoroboranes are presented. CF₂ affinities are compared to CO and F- affinities of selected boranes showing a trend in Lewis acidity, and its influence on the stability of the complexes is discussed. F- ion affinities are calculated for a variety of different fluoroboranes, including perfluorocarboranes, and compared to those of the title compds.

REFERENCE COUNT: 74 THERE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:837099 CAPLUS

DOCUMENT NUMBER: 139:323661

TITLE: Process for the production of (perfluoroalkyl)phosphines by reaction of fluoro(perfluoroalkyl)phosphoranes with hydride donors and their use as perfluoroalkylating reagents

INVENTOR(S): Welz-Biermann, Urs; Ignatyev, Nikolai; Weiden, Michael; Schmidt, Michael; Heider, Udo; Miller, Alexej; Willner, Helge; Sartori, Peter

PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|--------------------|----------|
| WO 2003087113 | A1 | 20031023 | WO 2003-EP2739 | 20030317 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| DE 10216998 | A1 | 20031113 | DE 2002-10216998 | 20020418 |
| AU 2003218773 | A1 | 20031027 | AU 2003-218773 | 20030317 |
| EP 1495037 | A1 | 20050112 | EP 2003-712029 | 20030317 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK | | | | |
| US 2005131256 | A1 | 20050616 | US 2003-511554 | 20030317 |
| JP 2005522512 | T2 | 20050728 | JP 2003-584069 | 20030317 |
| PRIORITY APPLN. INFO.: | | | DE 2002-10216998 A | 20020418 |
| | | | WO 2003-EP2739 W | 20030317 |

OTHER SOURCE(S): CASREACT 139:323661; MARPAT 139:323661

AB (perfluoroalkyl)phosphines were prepared by solventless reaction at reflux of at least 1 fluoro(perfluoroalkyl)phosphorane (C_nF_{2n+1})_mPF_{5-m}

($1 \leq n \leq 8$, preferably $1 \leq n \leq 4$; $m = 1, 2, 3$) with equimolar or excess amts. of at least 1 hydride ion donor (hydride donors = hydrosilanes, alkyl(hydro)silanes, metal hydrides, borohydrides, hydroborates); tris(perfluoroalkyl)phosphines thus prepared are useful for perfluoroalkylation of chemical substrates, preferably tricoordinated organoboron compds. and/or carbonyl group-containing organic compds., in presence

of a base. In an example, treating 0.54 mol $(C_2F_5)_3PF_2$ with 1.089 mol $NaBH_4$ at reflux for 3 h with vigorous stirring gave 93% $(C_2F_5)_3P$, which subsequently was treated with $KOBu-t$ and benzophenone in THF to give 62% $CF_3CF_2C(OH)Ph_2$.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:837015 CAPLUS
 DOCUMENT NUMBER: 139:323332
 TITLE: Method for perfluoroalkylation of carbonyl-containing organic compounds and/or tricoordinated organoboron compounds with tris(perfluoroalkyl)phosphine oxides in the presence of a base
 INVENTOR(S): Ignatyev, Nikolai; Welz-Biermann, Urs; Schmidt, Michael; Weiden, Michael; Heider, Udo; Willner, Helge; Sartori, Peter; Miller, Alexej
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 19 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|--------------------|----------|
| WO 2003087020 | A1 | 20031023 | WO 2003-EP2741 | 20030317 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| DE 10216996 | A1 | 20031030 | DE 2002-10216996 | 20020416 |
| AU 2003219062 | A1 | 20031027 | AU 2003-219062 | 20030317 |
| EP 1494982 | A1 | 20050112 | EP 2003-714833 | 20030317 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK | | | | |
| US 2005119513 | A1 | 20050602 | US 2003-511156 | 20030317 |
| JP 2005522496 | T2 | 20050728 | JP 2003-583979 | 20030317 |
| PRIORITY APPLN. INFO.: | | | DE 2002-10216996 A | 20020416 |
| | | | WO 2003-EP2741 W | 20030317 |

AB The invention relates to a method for perfluoroalkylation of carbonyl-containing organic compds. and/or tricoordinated organoboron compds. with tris(perfluoroalkyl)phosphine oxides in the presence of a base. Thus, a mixture of KF and $(MeO)_3B$ in 1,2-dimethoxyethane was treated with tris(pentafluoroethyl)phosphine oxide (preparation given) at -40° followed by stirring for 1 h at -30° to give 53.6% potassium pentafluoroethyltrifluoroborate $[(C_2F_5)_3BF_3K]$.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:807858 CAPLUS
DOCUMENT NUMBER: 139:395987
TITLE: Perfluoroalkyl borates and boronic esters: new promising partners for Suzuki and Petasis reactions
AUTHOR(S): Kolomeitsev, Alexander A.; Kadyrov, Alexander A.; Szczepkowska-Sztolcman, Joanna; Milewska, Magdalena; Koroniak, Henryk; Bissky, German; Barten, Jan A.; Roeschenthaler, Gerd-Volker
CORPORATE SOURCE: Institute of Organic Chemistry, Ukrainian National Academy of Sciences, Kiev, 02094, Ukraine
SOURCE: Tetrahedron Letters (2003), 44(45), 8273-8277
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:395987
AB Lithium and potassium trifluoromethyl-, pentafluoroethyl- and [(diethylphosphinyl)difluoromethyl]trialkoxyborates were prepared by reaction of either perfluoroalkyllithium or (perfluoroalkyl)trimethylsilane/F- with tri-Me or tri-Et borates. Treatment of perfluoroalkyltrialkoxyborates with methanesulfonyl chloride, Me triflate or Me tosylate furnished the hitherto unknown trifluoromethyl-, pentafluoroethyl- and [(diethylphosphinyl)difluoromethyl]boronic esters.
REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:728921 CAPLUS
DOCUMENT NUMBER: 140:199362
TITLE: Novel electrolyte salts based on perfluoroalkyltrifluoroborate anions. 1. Synthesis and characterization
AUTHOR(S): Zhou, Zhi-Bin; Takeda, Masayuki; Ue, Makoto
CORPORATE SOURCE: Electrochemistry Laboratory, Science and Technology Research Center, Mitsubishi Chemical Corporation, Inashiki, Ibaraki, 300-0332, Japan
SOURCE: Journal of Fluorine Chemistry (2003), 123(1), 127-131
CODEN: JFLCAR; ISSN: 0022-1139
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:199362
AB Lithium and tetraethylammonium perfluoroalkyltrifluoroborate salts, Li[RfBF₃]·H₂O and Et₄N[RfBF₃] (Rf = C₂F₅, n-C₃F₇ and n-C₄F₉), were prepared from the reactions of perfluoroalkylmagnesium reagents (RfMgBr) and B(OCH₃)₃, followed by fluorination by aqueous KHF₂ and aqueous HF solns. and the cation exchange reaction of the resultant K[RfBF₃]. All the salts prepared were characterized by ¹⁹F NMR, ¹H NMR, ¹¹B NMR, ⁷Li NMR, IR, MS and elemental anal.
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:608824 CAPLUS
DOCUMENT NUMBER: 138:4627
TITLE: (Fluoroorgano)fluoroboranes and -borates. 7. The reaction of RFBF₂ and K[RFBF₃] (RF = perfluorophenyl-, perfluoroalk-1-enyl- and perfluoroalkyl) with xenon difluoride in anhydrous HF
AUTHOR(S): Frohn, H.-J.; Bardin, V. V.
CORPORATE SOURCE: Fachgebiet Anorganische Chemie, Universitaet Duisburg, Duisburg, D-47048, Germany

SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie
(2002), 628(8), 1853-1856
CODEN: ZAACAB; ISSN: 0044-2313
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:4627
AB The dissoln. of (perfluoroorgano)difluoroboranes RFBF₂ in anhydrous HF (aHF) resulted in equilibrium mixts. of the starting borane and different kinds of acid-base products: [H₂F] [RFBF₂(F·HF)] (RF = C₆F₅, cis-C₂F₅CF:CF, trans-C₄F₉CF:CF) or [H₂F] [RFBF₃] (RF = C₆F₁₃). In aHF the aryl compds. C₆F₅BF₂ and K[C₆F₅BF₃] showed two parallel reactivities with XeF₂: xenodeborylation (formation of the [C₆F₅Xe]⁺ cation) and fluorine addition to the aryl group. In aHF perfluoroalk-1-enyl difluoroboranes RFBF₂ as well as potassium perfluoroalk-1-enyl trifluoroborates K[RFBF₃] (RF = cis-C₂F₅CF:CF, trans-C₄F₉CF:CF) underwent only fluorine addition across the carbon-carbon double bond under the action of XeF₂. Potassium perfluorohexyl trifluoroborate K [C₆F₁₃BF₃] did not react with XeF₂ in aHF.
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d his

(FILE 'HOME' ENTERED AT 19:20:21 ON 12 MAR 2006)

FILE 'REGISTRY' ENTERED AT 19:20:45 ON 12 MAR 2006
E 2,2,3,3,3-PENTAFLUORO-1,1-DIPHENYLPROPAN-1-OL/CN
L1 1 S E3
E POTASSIUM PENTAFLUOROETHYLTRIFLUOROBORATE/CN
E POTASSIUM PENTAFLUOROETHYL TRIFLUOROBORATE/CN

FILE 'CAPLUS' ENTERED AT 19:27:57 ON 12 MAR 2006
L2 4 S L1/PREP
L3 1 S POTASSIUM PENTAFLUOROETHYLTRIFLUOROBORATE

FILE 'REGISTRY' ENTERED AT 19:31:25 ON 12 MAR 2006
L4 0 S 805247-52

FILE 'REGISTRY' ENTERED AT 19:32:24 ON 12 MAR 2006
L5 1 S 805247-52-3/RN
SET NOTICE 1 DISPLAY
SET NOTICE LOGIN DISPLAY

FILE 'REGISTRY' ENTERED AT 19:33:52 ON 12 MAR 2006
L6 1 S 482635-70-1

FILE 'MARPAT' ENTERED AT 19:37:46 ON 12 MAR 2006
SET NOTICE DISPLAY 1
SET NOTICE LOGIN DISPLAY

FILE 'REGISTRY' ENTERED AT 19:39:27 ON 12 MAR 2006
L7 1 S 476639-90-4/RN
SET NOTICE 1 DISPLAY
SET NOTICE LOGIN DISPLAY
L8 1 S 476639-90-4

FILE 'CAPLUS' ENTERED AT 19:40:49 ON 12 MAR 2006
L9 10 S L8
L10 7 S L8/PREP

=> s 19 not 17
10 L7
L11 0 L9 NOT L7

=> s 19 not 10
2830 L0
L12 10 L9 NOT L0

=> d l12 ibib ab 1-10

L12 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:166762 CAPLUS
DOCUMENT NUMBER: 142:414350
TITLE: Li [C₂F₅BF₃] as an electrolyte salt for 4 V class lithium-ion cells
AUTHOR(S): Zhou, Zhi-Bin; Takeda, Masayuki; Fujii, Takashi; Ue, Makoto
CORPORATE SOURCE: Battery Materials Laboratory, Mitsubishi Chemical Group Science and Technology Research Center, Incorporated, Ibaraki, 300-0332, Japan
SOURCE: Journal of the Electrochemical Society (2005), 152(2), A351-A356
CODEN: JESOAN; ISSN: 0013-4651
PUBLISHER: Electrochemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Lithium pentafluoroethyltrifluoroborate, Li [C₂F₅BF₃] (LiFAB), was prepared by a facile metathesis reaction between high-purity K[C₂F₅BF₃] and LiBF₄ in di-Me carbonate with almost quant. yield. It was characterized by ¹H-, ¹⁹F-, ¹¹B-, ⁷Li-NMR, and elemental anal. In nonaq. solvents, LiFAB showed higher electrolytic conductivities than LiBF₄ due to the weaker coordinating ability of FAB-. Compared with LiPF₆, it showed a lower electrolytic conductivity in room-temperature region, and a higher conductivity in low-temperature region (T < -10 °C). The performances of LiFAB were evaluated in comparison with LiPF₆ and LiBF₄ by using Li/graphite and Li/nickel-based oxide half-cells and Li-ion cells. LiFAB could afford comparable performances to LiPF₆ and much better performances than LiBF₄.
REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:1121653 CAPLUS
DOCUMENT NUMBER: 142:176638
TITLE: Low-melting, low-viscous, hydrophobic ionic liquids: N-alkyl(alkyl ether)-N-methylpyrrolidinium perfluoroethyltrifluoroborate
AUTHOR(S): Zhou, Zhi-Bin; Matsumoto, Hajime; Tatsumi, Kuniaki
CORPORATE SOURCE: Research Institute for Ubiquitous Energy Devices, National Institute of Advanced Industrial Science and Technology, Osaka, 563-8577, Japan
SOURCE: Chemistry Letters (2004), 33(12), 1636-1637
CODEN: CMLTAG; ISSN: 0366-7022
PUBLISHER: Chemical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:176638
AB A series of hydrophobic ionic liqs., e.g., I, comprising N-alkyl-N-methylpyrrolidinium and perfluoroethyltrifluoroborate were prepared and characterized. The [C₂F₅BF₃]-based salts showed lower m.ps. than the corresponding [BF₄]-based ones. Of these salts, some were liqs. at room temperature and show very low viscosities (37-71 cP at 25 °C), high ionic conductivities (3.0-6.8 mScm⁻¹) and wide electrochem. windows.
REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:1120394 CAPLUS
 DOCUMENT NUMBER: 142:198127
 TITLE: Low-melting, low-viscous, hydrophobic ionic liquids:
 1-alkyl(alkyl ether)-3-methylimidazolium
 perfluoroalkyltrifluoroborate
 AUTHOR(S): Zhou, Zhi-Bin; Matsumoto, Hajime; Tatsumi, Kuniaki
 CORPORATE SOURCE: Research Institute for Ubiquitous Energy Devices,
 National Institute of Advanced Industrial Science and
 Technology (AIST), Osaka, 563-8577, Japan
 SOURCE: Chemistry--A European Journal (2004), 10(24),
 6581-6591
 CODEN: CEUJED; ISSN: 0947-6539
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 142:198127
 AB Twenty two hydrophobic ionic liqs., 1-alkyl(alkyl ether)-3-methyimidazolium ($[Cmmim]^+$ or $[CmOnmim]^+$; where Cm is 1-alkyl, Cm = nCmH $2m+1$, m = 1-4 and 6; CmOn is 1-alkyl ether, C2O1 = CH $3OCH_2$, C3O1 = CH $3OCH_2CH_2$, and C5O2 = CH $3(OCH_2CH_2)_2$) perfluoroalkyltrifluoroborate ($[RFBF_3]^-$, RF = CF $_3$, C $2F_5$, nC $3F_7$, nC $4F_9$), were prepared and characterized. Some of the important physicochem. properties of these salts including m.p., glass transition, viscosity, d., ionic conductivity, thermal and electrochem. stability, were determined and were compared with those of the reported $[BF_4]^-$ -based ones. The influence of the structure variation in the imidazolium cation and the perfluoroalkyltrifluoroborate ($[RFBF_3]^-$) anion on the above physicochem. properties is discussed. The key features of these new salts are their low m.ps. (-42 to 35°) or extremely low glass transition (between -87 and -117°) without melting, and considerably low viscosities (26-77 cP at 25°).
 REFERENCE COUNT: 74 THERE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:1059309 CAPLUS
 DOCUMENT NUMBER: 142:37908
 TITLE: Synthesis of guanidinium-cation containing salts for use as ionic liquid reaction media
 INVENTOR(S): Welz-Biermann, Urs; Ignatyev, Nikolai; Willner, Helge; Bissky, German
 PATENT ASSIGNEE(S): Merck Patent G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|--|----------|------------------|----------|
| WO 2004106288 | A2 | 20041209 | WO 2004-EP3459 | 20040401 |
| WO 2004106288 | A3 | 20050317 | | |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | |
| RW: | BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | |
| DE 10325051 | A1 | 20041223 | DE 2003-10325051 | 20030602 |

PRIORITY APPLN. INFO.: DE 2003-10325051 A 20030602
OTHER SOURCE(S): MARPAT 142:37908
AB The invention relates to salts containing guanidinium cations, to a method for their production and to their use as ionic liqs. Thus, 1,3-dimethyl-2-chloroimidazolidinium chloride was reacted with trimethylsilyldiethylamine to give 1,3-dimethyl-2-diethylaminocimidazolidinium chloride, which was then reacted with trifluorotris(pentafluoroethyl)phosphate to give the desired compound (I), m.p. 36-37° C. I had viscosities of 78, 34, and 18 cP at 40, 60, and 80 °C, resp., compared to 346, 269, and 124 cP for reference compound N,N-dimethyl-N',N',N",N"-tetrahexylguanidinium bis(trifluoromethanesulfonyl)imide at 25, 40, or 60 °C, resp.

L12 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:990110 CAPLUS
DOCUMENT NUMBER: 140:181496
TITLE: Rearrangement reactions of the transient Lewis acids (CF₃)₃B and (CF₃)₃BCF₂: an experimental and theoretical study
AUTHOR(S): Finze, Maik; Bernhardt, Eduard; Zaehres, Manfred; Willner, Helge
CORPORATE SOURCE: Fakultaet 4, Anorganische Chemie, Universitaet Duisburg-Essen, Duisburg, D-47048, Germany
SOURCE: Inorganic Chemistry (2004), 43(2), 490-505
CODEN: INOCAJ; ISSN: 0020-1669
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:181496
AB Short-lived (CF₃)₃B and (CF₃)₃BCF₂ are generated as intermediates by thermal dissociation of (CF₃)₃BCO and F- abstraction from the weak coordinating anion [B(CF₃)₄]⁻, resp. Both Lewis acids cannot be detected because of their instability with respect to rearrangement reactions at the B-C-F moiety. A cascade of 1,2-F shifts to B followed by perfluoroalkyl group migrations and also difluorocarbene transfer reactions occur. In the gas phase, (CF₃)₃B rearranges to a mixture of linear perfluoroalkyldifluoroboranes C_nF_{2n+1}BF₂ (n = 2-7), while the resp. reactions of (CF₃)₃BCF₂ result in a mixture of linear (n = 2-4) and branched monoperfluoroalkyldifluoroboranes, e.g., (C₂F₅)(CF₃)FCBF₂. For comparison, the reactions of [CF₃BF₃]⁻ and [C₂F₅BF₃]⁻ with AsF₅ were studied, and the products in the case of [CF₃BF₃]⁻ are BF₃ and C₂F₅BF₂ whereas in the case of [C₂F₅BF₃]⁻, C₂F₅BF₂ is the sole product. In contrast to reports in the literature, CF₃BF₂ is too unstable at room temperature to be detected. The decomposition of (CF₃)₃BCO in anhydrous HF leads to a mixture of the new conjugate Bronsted-Lewis acids [H₂F][(CF₃)₃BF] and [H₂F][C₂F₅BF₃]. All reactions are modeled by d. functional calcns. The energy barriers of the transition states are low in agreement with the exptl. results that (CF₃)₃B and (CF₃)₃BCF₂ are short-lived intermediates. Since CF₂ complexes are key intermediates in the rearrangement reactions of (CF₃)₃B and (CF₃)₃BCF₂, CF₂ affinities of some perfluoroalkylfluoroboranes are presented. CF₂ affinities are compared to CO and F- affinities of selected boranes showing a trend in Lewis acidity, and its influence on the stability of the complexes is discussed. F- ion affinities are calculated for a variety of different fluoroboranes, including perfluorocarboranes, and compared to those of the title compds.
REFERENCE COUNT: 74 THERE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:837099 CAPLUS
DOCUMENT NUMBER: 139:323661
TITLE: Process for the production of (perfluoroalkyl)phosphines by reaction of fluoro(perfluoroalkyl)phosphoranes with hydride donors

INVENTOR(S) : and their use as perfluoroalkylating reagents
 Welz-Biermann, Urs; Ignatyev, Nikolai; Weiden,
 Michael; Schmidt, Michael; Heider, Udo; Miller,
 Alexej; Willner, Helge; Sartori, Peter
 PATENT ASSIGNEE(S) : Merck Patent G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 32 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|------------------|------------|
| WO 2003087113 | A1 | 20031023 | WO 2003-EP2739 | 20030317 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| DE 10216998 | A1 | 20031113 | DE 2002-10216998 | 20020418 |
| AU 2003218773 | A1 | 20031027 | AU 2003-218773 | 20030317 |
| EP 1495037 | A1 | 20050112 | EP 2003-712029 | 20030317 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK | | | | |
| US 2005131256 | A1 | 20050616 | US 2003-511554 | 20030317 |
| JP 2005522512 | T2 | 20050728 | JP 2003-584069 | 20030317 |
| PRIORITY APPLN. INFO.: | | | DE 2002-10216998 | A 20020418 |
| | | | WO 2003-EP2739 | W 20030317 |

OTHER SOURCE(S) : CASREACT 139:323661; MARPAT 139:323661
 AB (perfluoroalkyl)phosphines were prepared by solventless reaction at reflux of at least 1 fluoro(perfluoroalkyl)phosphorane ($C_nF_{2n+1}mPF_5-m$ ($1 \leq n \leq 8$, preferably $1 \leq n \leq 4$; $m = 1, 2, 3$) with equimolar or excess amts. of at least 1 hydride ion donor (hydride donors = hydrosilanes, alkyl(hydro)silanes, metal hydrides, borohydrides, hydroborates); tris(perfluoroalkyl)phosphines thus prepared are useful for perfluoroalkylation of chemical substrates, preferably tricoordinated organoboron compds. and/or carbonyl group-containing organic compds., in presence

of a base. In an example, treating 0.54 mol $(C_2F_5)_3PF_2$ with 1.089 mol NaBH4 at reflux for 3 h with vigorous stirring gave 93% $(C_2F_5)_3P$, which subsequently was treated with KOBu-t and benzophenone in THF to give 62% $CF_3CF_2C(OH)Ph_2$.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:837015 CAPLUS
 DOCUMENT NUMBER: 139:323332
 TITLE: Method for perfluoroalkylation of carbonyl-containing organic compounds and/or tricoordinated organoboron compounds with tris(perfluoroalkyl)phosphine oxides in the presence of a base
 INVENTOR(S) : Ignatyev, Nikolai; Welz-Biermann, Urs; Schmidt, Michael; Weiden, Michael; Heider, Udo; Willner, Helge; Sartori, Peter; Miller, Alexej
 PATENT ASSIGNEE(S) : Merck Patent G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 19 pp.
 CODEN: PIXXD2

DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|------------------|----------|
| WO 2003087020 | A1 | 20031023 | WO 2003-EP2741 | 20030317 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| DE 10216996 | A1 | 20031030 | DE 2002-10216996 | 20020416 |
| AU 2003219062 | A1 | 20031027 | AU 2003-219062 | 20030317 |
| EP 1494982 | A1 | 20050112 | EP 2003-714833 | 20030317 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK | | | | |
| US 2005119513 | A1 | 20050602 | US 2003-511156 | 20030317 |
| JP 2005522496 | T2 | 20050728 | JP 2003-583979 | 20030317 |

PRIORITY APPLN. INFO.:
 AB The invention relates to a method for perfluoroalkylation of carbonyl-containing organic compds. and/or tricoordinated organoboron compds. with tris(perfluoroalkyl)phosphine oxides in the presence of a base. Thus, a mixture of KF and (MeO)₃B in 1,2-dimethoxyethane was treated with tris(pentafluoroethyl)phosphine oxide (preparation given) at -40° followed by stirring for 1 h at -30° to give 53.6% potassium pentafluoroethyltrisfluoroborate [(C₂F₅)BF₃K].
 REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2003:807858 CAPLUS
 DOCUMENT NUMBER: 139:395987
 TITLE: Perfluoroalkyl borates and boronic esters: new promising partners for Suzuki and Petasis reactions
 AUTHOR(S): Kolomeitsev, Alexander A.; Kadyrov, Alexander A.; Szczepkowska-Sztolcman, Joanna; Milewska, Magdalena; Koroniak, Henryk; Bissky, German; Barten, Jan A.; Roeschenthaler, Gerd-Volker
 CORPORATE SOURCE: Institute of Organic Chemistry, Ukrainian National Academy of Sciences, Kiev, 02094, Ukraine
 SOURCE: Tetrahedron Letters (2003), 44(45), 8273-8277
 CODEN: TELEAY; ISSN: 0040-4039
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 139:395987
 AB Lithium and potassium trifluoromethyl-, pentafluoroethyl- and [(diethylphosphinyl)difluoromethyl]trialkoxyborates were prepared by reaction of either perfluoroalkyllithium or (perfluoroalkyl)trimethylsilane/F- with tri-Me or tri-Et borates. Treatment of perfluoroalkyltrialkoxyborates with methanesulfonyl chloride, Me triflate or Me tosylate furnished the hitherto unknown trifluoromethyl-, pentafluoroethyl- and [(diethylphosphinyl)difluoromethyl]boronic esters.
 REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:728921 CAPLUS
DOCUMENT NUMBER: 140:199362
TITLE: Novel electrolyte salts based on perfluoroalkyltrifluoroborate anions. 1. Synthesis and characterization
AUTHOR(S): Zhou, Zhi-Bin; Takeda, Masayuki; Ue, Makoto
CORPORATE SOURCE: Electrochemistry Laboratory, Science and Technology Research Center, Mitsubishi Chemical Corporation, Inashiki, Ibaraki, 300-0332, Japan
SOURCE: Journal of Fluorine Chemistry (2003), 123(1), 127-131
CODEN: JFLCAR; ISSN: 0022-1139
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:199362
AB Lithium and tetraethylammonium perfluoroalkyltrifluoroborate salts, Li[RfBF₃]·H₂O and Et₄N[RfBF₃] (Rf = C₂F₅, n-C₃F₇ and n-C₄F₉), were prepared from the reactions of perfluoroalkylmagnesium reagents (RfMgBr) and B(OCH₃)₃, followed by fluorination by aqueous KHF₂ and aqueous HF solns. and the cation exchange reaction of the resultant K[RfBF₃]. All the salts prepared were characterized by ¹⁹F NMR, ¹H NMR, ¹¹B NMR, ⁷Li NMR, IR, MS and elemental anal.
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:608824 CAPLUS
DOCUMENT NUMBER: 138:4627
TITLE: (Fluoroorgano)fluoroboranes and -borates. 7. The reaction of RFBF₂ and K[RFBF₃] (RF = perfluorophenyl-, perfluoroalk-1-enyl- and perfluoroalkyl) with xenon difluoride in anhydrous HF
AUTHOR(S): Frohn, H.-J.; Bardin, V. V.
CORPORATE SOURCE: Fachgebiet Anorganische Chemie, Universitaet Duisburg, Duisburg, D-47048, Germany
SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie (2002), 628(8), 1853-1856
CODEN: ZAACAB; ISSN: 0044-2313
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:4627
AB The dissoln. of (perfluoroorgano)difluoroboranes RFBF₂ in anhydrous HF (aHF) resulted in equilibrium mixts. of the starting borane and different kinds of acid-base products: [H₂F][RFBF₂(F·HF)] (RF = C₆F₅, cis-C₂F₅CF:CF, trans-C₄F₉CF:CF) or [H₂F][RFBF₃] (RF = C₆F₁₃). In aHF the aryl compds. C₆F₅BF₂ and K[C₆F₅BF₃] showed two parallel reactivities with XeF₂: xenodeborylation (formation of the [C₆F₅Xe]⁺ cation) and fluorine addition to the aryl group. In aHF perfluoroalk-1-enyldifluoroboranes RFBF₂ as well as potassium perfluoroalk-1-enyltrifluoroborates K[RFBF₃] (RF = cis-C₂F₅CF:CF, trans-C₄F₉CF:CF) underwent only fluorine addition across the carbon-carbon double bond under the action of XeF₂. Potassium perfluorohexyltrifluoroborate K [C₆F₁₃BF₃] did not react with XeF₂ in aHF.
REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT